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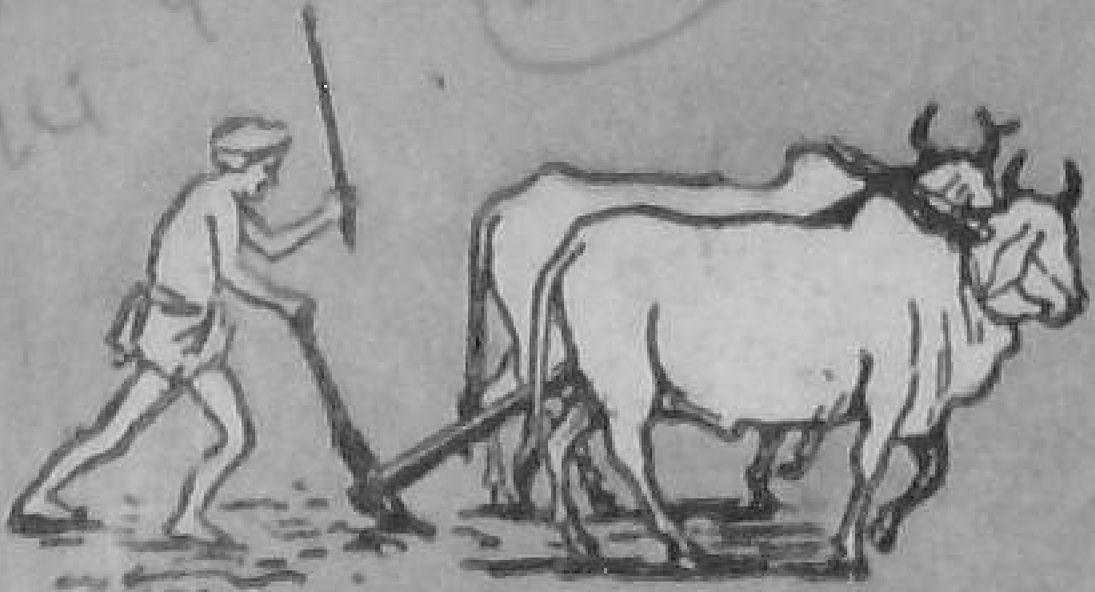

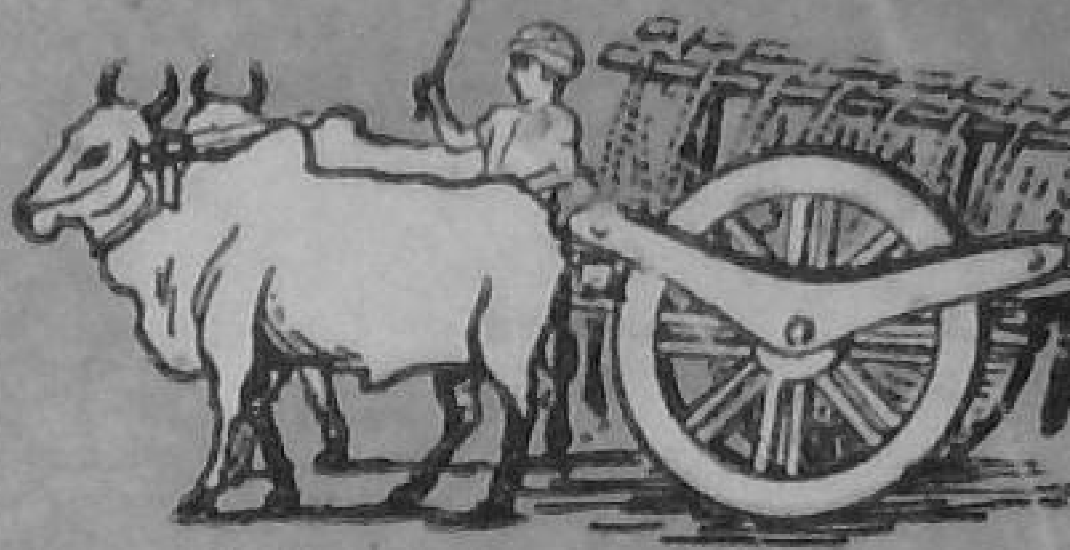

WHY GO-SEVA?

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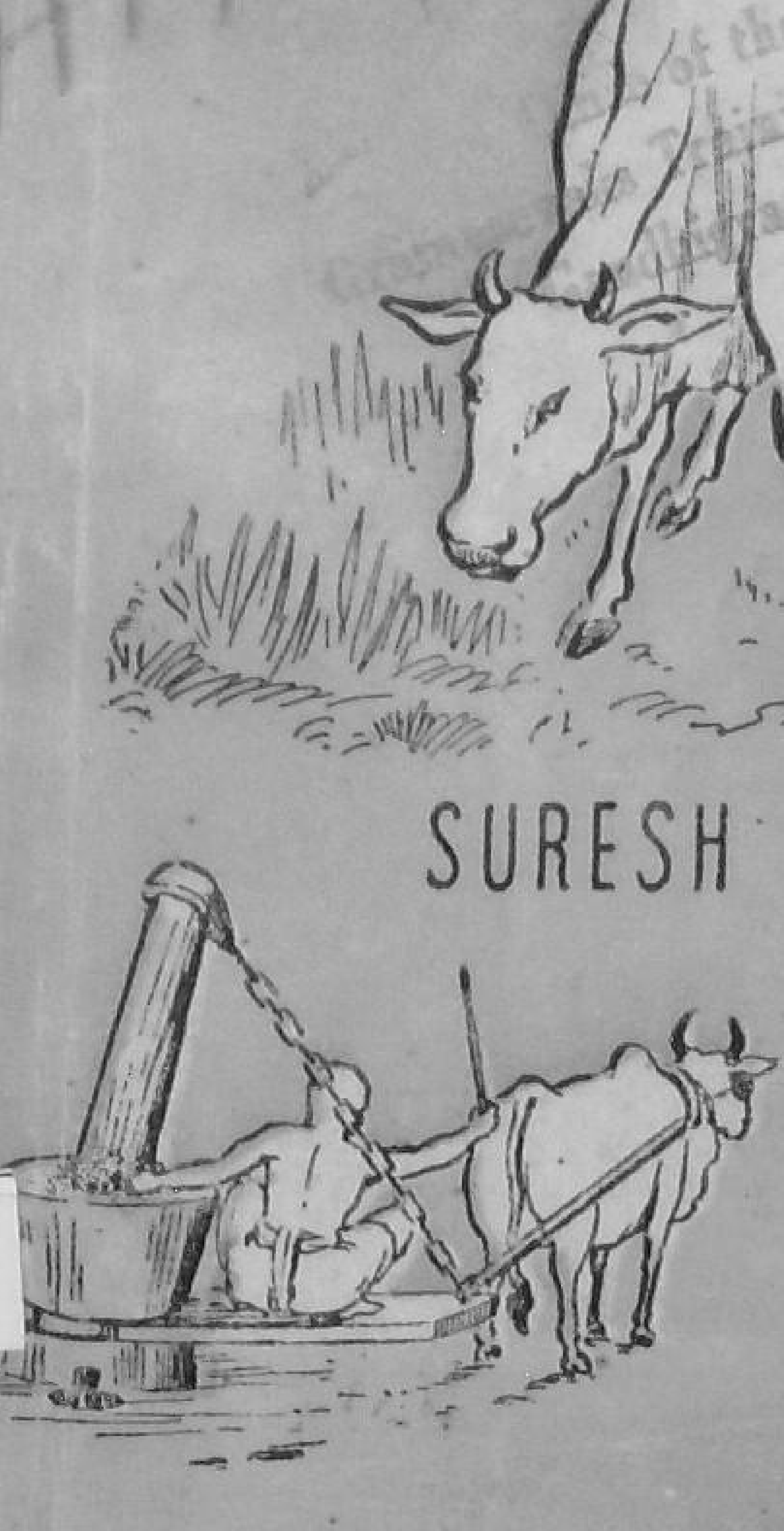
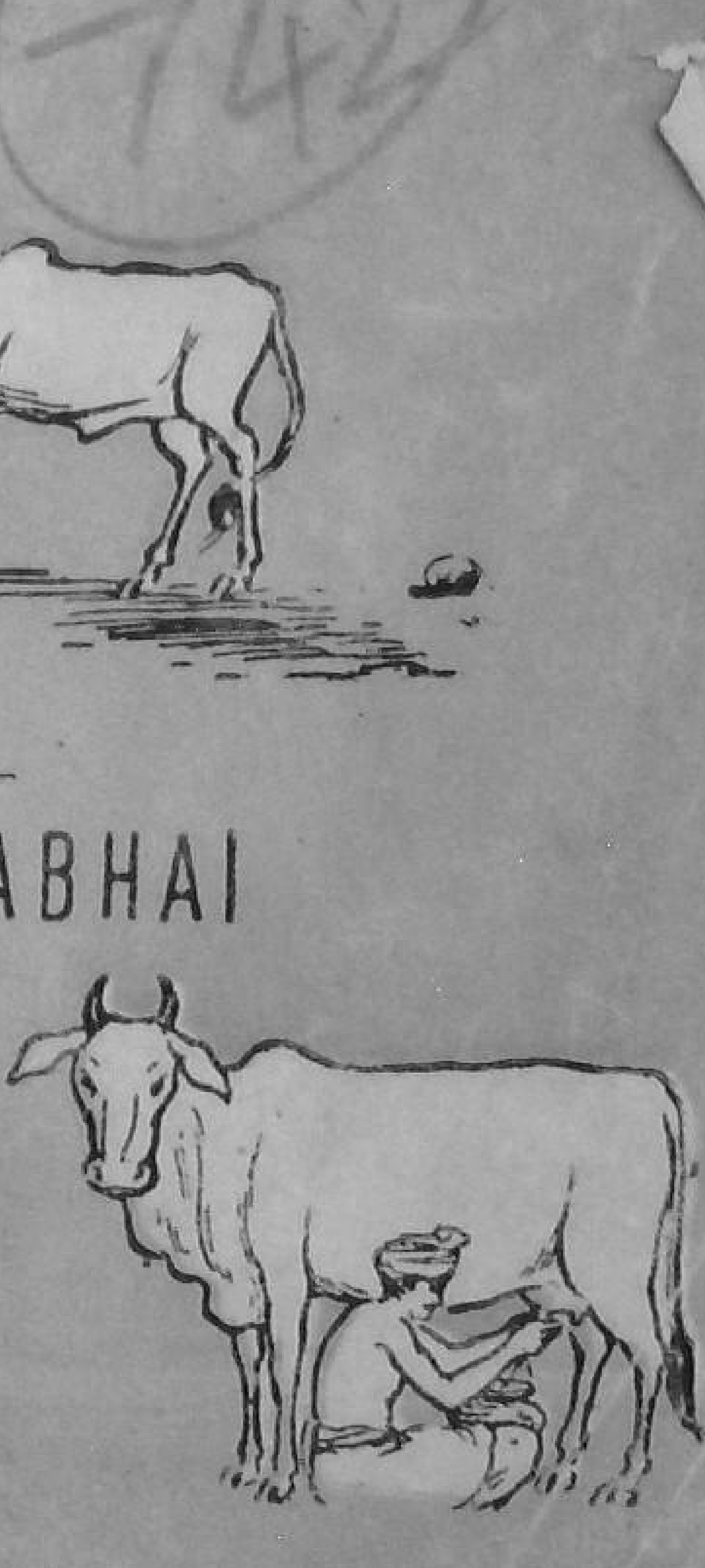
SURESH RAMABHAI





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WHY GO-SEVA ?

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PREFACE

This brochure is no apology on behalf of the cow nor an appeal to the legislators to ban its slaughter Neither do I claim to be an adept in the art of cow-keeping or agricuture. But both 'expert' and official opinion has, it appears, resolved to look at the issue of our cattle wealth from the point of view of 'returns' alone. In the name of 'practicalism' it is questioning the validity of cow-keeping when buffalo and tractor can serve the desired purpose. But it is a commercial view which is no more tenable than that of the needlessness of *ghee* against flashy 'vitamin'-ed vanaspati. Sentiment apart, scientific considerations show that mother cow and its son cannot be adequately replaced by any other animal or machine. An attempt is here made to discuss briefly the distinguished place of cow in our economy and its unrivalled position in our everyday life.

I am obliged to Sri Radhakrishnabhai Bajaj for giving me the opportunity to study this problem at Gopuri, Wardha. My thanks are also due to Prof. J. G. Short, Head of the Expansion Department of Agricultural Institute, Allahabad, who went through the entire manuscript and helped me by his suggestions and advice.

If these pages help the reader to think over the necessity of concentrating our energy and resources on cow as against any other milch-animal or machine, I would deem my labours amply rewarded.

Allahabad:
9th April 1952

SURESH RAMABHAI

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CHAPTER I.

The Call of Cow.

From ages past India has lived and given only one message to humanity—the unity of the entire creation. To the naked eye are visible hundreds and thousands of things, both animate and inanimate, which seemingly have as little connection among themselves as the seven colours of a rainbow have amongst them. But as the modern scientist knows that these seven are mere constituents of the all-embracing one, called white, so the ancient scientists-cum-rishis of India declared that the millions of objects found throughout the universe are but constituents of an all-embracing one, called Life in the widest sense of the term.

Needless to state that in this creation the most important as also the most advanced item is that of our own kind—the mankind. Mankind is, as it were, the centre round which the whole creation moves. Fortunately or otherwise, none but man possesses the tongue to express what he feels

within. Another exception are animals and birds which do have tongue, but only to eat with and sing or cry, not to speak and express. Thus the medium of speech separates man from the rest of life which is dumb. Of this dumb creation, from times immemorial, there is one representative, discovered as such perhaps in India first but now acknowledged the world over. And that is—the cow. It is recognised by man to be the most useful creature. Eliminate cow, a 'civilised' man of the West loses three-fourths of his life-giving food, while one of the East loses almost all.

It was on account of the manifold usefulness of the cow, now faithfully recognised by the scientific West, that India gave it a place among her noblest, the loftiest and the most sacred. In fact she raised her to the status of a goddess. mother to one and all, an object of worship and adoration. The cow thus earned a most enviable position in our legend, mythology and song.

Great was our attachment to the cow. It was excelled only, if at all, by our attachment to the mother earth. But of those days we cannot now even dream. The

history of India is a sad, long tale of the criminal neglect of the cow by her people. Perhaps we hold the cow in the same veneration as our fathers did in yore. But a veneration without corresponding action is treachery. We stand guilty to it. Doubtlessly, stupendous events, almost insurmountable by us, have contributed to this serious national disaster. Yet we stand guilty for we did not do the little that we could. Our pinjarapoles and goshalas are a standing monument of our apathy.

We designate ourselves the worshippers and protectors of the cow. But what remarkable protectors are we to reduce the cow to a rueful picture of pity. Nay, we arrogate to ourselves religious and moral specialities for the neglectful protection we have offered and look down upon the people of the West as killers of the cow. Surely if cow (as it is today) is the symbol of our religion every man of the West would be proud to call himself irreligious and many a man in the East would have to think anew about religion In fact, if adoration of the cow is to be measured by the amount of useful service rendered to the cow, the following table

shows how irreligious we of India really are:

Table I.

Country.	Total production of milk (million gallons.)	Human Population (thousands)	Daily production per head of population in oz.	Daily consumption per head of population in oz.	Milk yield per cow per year in lbs.
1. New Zealand	870	1,559	244	56	5118
2. Denmark	1,200	3,551	148	40	7005
3. Finland	620	3,666	74	63	4200
4. Sweden	980	6.233	69	61	3431
5. Australia	1,049	6,630	69	45	3463
6. Canada	1,580	10,377	66	35	3195
7. Switzerland	607	4,066	65	49	6498
8. Netherland	970	7,935	54	35	7559
9. Norway	290	2,814	45	43	3723
10. U. S. A.	10,380	1,22,775	37	35	4126
11. Austria	545	6,760	35	30	4629
12. Germany	5,096	66,030	34	35	5305
13. Poland	1,990	31,948	27	22	3021
14. G. Britain	1,474	45,266	14	39	5576
15. India	6,400	3,52,838	8	7	525

These figures speak for themselves. Those people in whose land flowed rivers of milk do not get even as little as a quarter seer of milk every day. When the average consumption is so low we can well imagine how many thousands and millions go even without a drop of milk. No wonder that a large number of our children close their baby eyes shortly after they open them. No wonder, again, that on an average we of India live hardly twenty-three years young!

The following figures are very revealing:—

Table II.

Country.	Death below 1 year per thousand.	Death above 1 year per thousand.	Average age.
1. Holland	50	17	
2. Sweden	102	16	
3. New Zealand	32	2	58
4. Denmark	136	15	56
5. England	172	17	53
6. India	260·7	38·2	23

N. B.—In some of our cities the death rate of children below one year is as much as 666 per thousand.

Under such conditions it is impossible for us to live a "hundred autumns" which we are blessed by our sages and elders. A diet with little or no milk (and any amount of cereals etc.) can be of little avail. As the great industrial chemist, Dr. N. N. Godbole says:—

"It is interesting to note the relation between long life and the habit of taking plenty of milk. It has been ascertained in Germany that out of a total population of sixty millions only 100 inhabitants are aged 100 years or more. It has been proved from data collected by the Pasteur Institute at Paris, that in Bulgaria, with a population of about 5 millions only (i. e. about one twelfth of the population of Germany) nearly 5,000 have a life of one hundred years or more. The reason of this is undoubtedly the nature of the food the Bulgarians take. The Bulgarians take a very large quantity of milk, cheese, Joghurt (Dahi) in their daily food, whereas flesh diet is taken only on holidays."

Similar is the case with the Danish people who have a larger percentage of centinarains and post-centenarians than any other people in the world.

Before the bar of humanity, the cow demands from us of India an explanation for this tragic disregard. No words can adequately give it. We must speedily act to wash the great spot on our face.

Happily we are a free people now. If the British wisdom lay in devising ways and means to ruin and destory the two live lungs of our being—the Charkha and the cow, we can halt the process. We should leave no stone unturned for the same and restore to both the rightful place that is theirs.

Office of the Gramasevaks Training Centre Gandhigram.

CHAPTER II

The Place Of Cow

To every effect there must be a cause. Why has India given a religious role to the cow ? Why does the West care more for cow than for any other creature ?

The answer can cover many volumes of the type one in hand. However, an attempt shall be made here to give some salient features.

The first and most obvious importance of the cow is for its milk, and the various products prepared from it, as butter, ghee, cheese, curds, chach and a thousand and odd varieties of sweet delicacies. As we shall show in the subsequent chapters, cow's milk, ghee, chach etc. are the best available in nature. Also there is no better source of obtaining animal fat and proteins, especially for those who do not use eggs and meat. If we want, and we do want animal fat and proteins, we should take to milk. The only rival, however and that too in India alone, is the buffalo milk and its pre-

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parations. But as shown hereafter simple scientific considerations for health demand that it should be discarded against cow's milk. For a detailed examination of the question, "Cow vs. Buffalo", please refer to Chapter VIII.

In the West cow is the rock on which the dairy industry rests. In India cow is like a multi-faced diamond, of whose glittering facets milk or dairy-use is but one.

Another and equally important aspect, rather more, is the value of cow for our agriculture. It is her male issue, the bullock which, since the dawn of her civilization, India has been using for purposes of draught. Elsewhere they use horse or camel or tractors for this work but we depend on the bullock.

Of late, efforts are in progress to make buffalo our milk supplier and employ the tractor for draught. It is alleged that since cow gives poor quantity of milk and proves to be more expensive we should try to do away with it altogether. Many belonging to the learned fraternity and also those in authority have expressed this idea and given

open encouragement to it. They curse the huge amount of useless cattle (especially of cow species) which cannot be maintained in India and the greatest misfortune according to these experts is that on account of sentimental reasons and religious bigotry people here do not even dispose of this heavy burden. Further, as sufficient milk cannot be obtained for the people. they demand decrease in population and suggest birth-control. But is it humanely possible to decrease the population by as much as 90 per cent. in order that hose who live may get the required amount of milk? Only a supreme economist-cum-statistician can balance the relative number of cows and human beings so that the two may supplement each other and none may suffer. Alas, that too on paper!

We next come to the real problem, the one of draught. Much of civilized India is being taught to go after tractors. And quite a lot of Government energy and money are being squandered to create in the lay people a craze for it. We shall go into this problem with some detail and examine the potentialities of the tractors in India

from three points view:-(i working capacity of tractors as against animals, (ii supply of fuel for tractors, and (iii effect of tractors on land and soil fertility.

As regards the working eapacity of tractors, two American investigators, M/s. Morrison and Henry say in their book, "*Feeds and Farmings*,":—

"When a horse is working at full capacity during the day, it will convert about 8% or more of the gross energy of its feed into actual useful external work, such as handling a load, without counting the energy expended in work of moving its own body. If credit is given to this work of locomotion of the body, the percentage efficiency is 15% or more."

"Compared with these estimates of the efficiency of animals as machine it was found in recent tests of 65 different farm tractors at the University of Nabrasha that on an average the tractors converted 8·0% of the gross energy of the fuel (chiefly kerosene) into work of draught, which did not include the work of locomotion of the tractor itself. In developing belt power where there is no locomotion, the tractors on the average turned 13. 4% of the gross energy of their fuel into work perfomed. This may be compared to the efficiency of 15% or more for the horse, when credit is included for moving the body. Thus as mere machine the animals compare favourably with the best modern tractors."

It is clear that when a horse is better for draught as compared to the tractor in America, in our own country, a bullock, used

from times immemorial, is bound to be more serviceable.

We know that all automatic machinery requires some fuel for its consumption—electricity, petroleum, coal, charcoal, or wood. Tractors require petroleum products. But where can India get petroleum from? We do not have kerosene oil deposits in our country. In fact we cannot locally meet even a hundredth part of our demand for kerosene oil. We have to import it from abroad.

With a growing use of machinery and tractors we require more and more of kerosene. The struggle for power in the Near West which is really a struggle for kerosene is well-known. To the misfortune of the machine-users, kerosene stock in the earth's interior is only decreasing. Unlike water kerosene does not vanish in the air to condense and come down again. Our utter helplessness in securing kerosene is a sufficient reason for discarding the tractors.

Let us, however, assume that India shall be able to get somehow the full amount of kerosene it requires. But recent scientific

researches have shown that tractor cultivation or mechanized farming is harmful, and hurts soil fertillity instead of improving it. In her book, "*The Living Soil*," Miss E. B. Balfour remarks:

"There is some evidence also, that heavy land soil, continuously cultivated with tractors, is becoming shallower, the opposite of the effect one would expect. There are two reasons for this I think; one is that on such land the pressure of the tractor (whatever the theorists may say) counteracts the lifting power of the implements it hauls, the other is that the depth of the tractor plough cannot easily be continually adjusted to hard, and tough, or sticky patches in a field, the presence of which is immediately felt by the horse ploughman."

"Captain Wilson has given it as his considered opinion, based on personal experience, that when properly farmed, a return to horse cultivation can be justified economically on all but the lightest land."

Again, another expert, H. R. Broadbent observes:

"The argument that food from a mechanized farm is cheaper than that from a mixed farm is without foundation. Its roots lie in the deserts of the world."

Further, Sir Albert Howard the renowned economic botanist, founder of the world-known Indore Process of soil fertility, holds the opinion that it is not without reason that farmers of the East do not employ soil

inverting ploughs or tractors for cultivation like the West. He says:

"Soil inverting ploughs, as used in the West for the destruction of weeds, have never been designed by Eastern peoples. The reason for this apper to be two: (i) soil inversion for the destruction of weeds is not necessary in hot climate where the same work is done by the sun for nothing; (ii) the preservation of the level of the fields is essential for surface drainage, for preventing local water-logging, and for irrigation. Another reason for this surface cultivation has recently been pointed out. The store of nitrogen in the soil in the form of organic matter has to be carefully conserved. It is part of the cultivator's working capital. Too much cultivation and deep ploughing would oxidise this reserve aad the balance of soil fertility would soon be destroyed."

There is no sense, therefore, in rejecting the bullock and using the tractor for agricultural purposes. The Indian peasant, though not literate, is educated well enough to do his job. So far as the art of soil cultivation is concerned he stands second to none in the world. To quote Sir Albert again:

"With no help from Science, and by observation alone, he has in the course of ages adjusted his methods of agriculture to the conservation of soil fertility in a most remarkable manner. He is by no means the ignorant and backward villager he is sometimes represented to be, but among the most economical farmers in the world as far as the management of the potent

element of fertility combined nitrogen goes, and tropical agriculture all over the world has much to learn from him. He does not over-cultivate or cultivate at the wrong time. Nothing is done to over-oxidize his precious floating nitrogen or to destroy his capital of humus. He does probably more with a little nitrogen than any farmer in the world outside China. For countless ages he has been able to maintain the present standard of fertility."

To all intents and purposes tractors, as stated above, for several reasons, must not be, in general, used on Indian soil. Their long-term effect will be simply disastrous which no amount of ingenuity will be able to recover.

It is also well-know that the tractors do not contribute at all to the maintenance of soil fertility for they do not void urine and dung. And why should they? They take nothing from the soil and hence return nothing to it. The bullock lives on products of soil and it duly pays back. In fact the use of a tractor for soil cultivation is like getting our clothes washed and cleaned from an expert dhobi. In spite of dhobi's best wishes the clothes, though smart and bright in appearance, will get weaker in every wash and if the owner has no other stock of

clothes he will have to go naked one day. So also we cannot help the destruction of our soil if tractors are used.

But one may argue: 'Positively the tractors do not urinate or give dung, but we have artificial manures for this job.' Never was ambition more unfortunate. The history of artificial manures is the tragedy of what scientists now say, the "rape of the earth"

Professor N. S. Shaler of Harvard University wrote in 1896:

"If mankind cannot devise and enforce ways of dealing with the earth, which will preserve the source of life, we must look forward to a time—remote it may be, yet clearly discernible—when our kind, having wasted its great inheritance, will fade from the earth because of the ruin it has accomplished."

The prophetic words have come out to be too true. In his book, "*Look To The Land*", Lord Northbourne makes the startling observation: "Probably more soil has been lost since 1919 than in the whole previous history of the world.'' He continues:

"For as a result solely of human mismanagement, the soils upon which men have attempted to found new civilizations are disappearing, washed away by water and blown away by wind. To-day, destruction of the earth's thin living cover is proceeding

at a rate and on a scale unparalleled in history, and when that thin cover—the soil—is gone, the fertile regions where it formerly lay will be uninhabitable deserts; already, indeed, probably nearly a million square miles of new desert have been formed, a far larger area is approaching desert conditions, and throughout the new world erosion is taking its relentless toll of soil fertility with incredible and ever-increasing speed."

As regards this speed we have some very heart-rending facts.

Addressing the British Association on Britain's part in the world food problem, Sir John Russel, President-elect, stated that four and a half million acres of our land have become rough grazing and that since 1919 we have been losing about 88,000 acres annually (Farmers Weekly).

The U. S. A. Soil Conservation Service says three billion tons of soil are wasted or blown away there every year, and this would be enough to fill trains of railway trucks stretching round the Equator 18 times.

Dr. Hugh Bennett, Chief of the Conservation Service, says in its short life America has destroyed 282,00,000 acres of the best crop and range land, and erosion is active on a further 775,00,000 acres. From 30 per cent. to 50 per cent. of the land available for cultivation has been lost since the days of the Founding Fathers.

Whither shall it all lead to? Sir Albert Howard has no doubt about it. He remarks:

"In almost every case the vagetablə and animal residues of Western Agriculture are either being completely wasted or else imperfectly utilised. A wide gap between the humus used up

in crop-production and the humus added as manure has naturally developed. This has been filled up by chemical manures. The principle followed is that any deficiencies in the soil composition can be made up by the addition of suitable chemicals. This is based on a complete mis-conception of plant-nutrition. It is superficial and fundamentally unsound. It takes no account of the life of the soil. Artificial manures tend inevitably to artificial nutrition, artificial food, artificial animals, and, finally to artificial men and women."

We may add that as a result of artificial men and women we can have only artificial civilization. Thus this is the dreadful outcome of using tractors and chemical manures. It is an extremely narrow and selfish outlook of the ignorant West (though so enlightened!) that it goes on employing the same. It refuses to see the whole picture. But we of India are mad after aping it. We can do so only at our peril. The West has, however, begun to realise it. A British farmer, Sir Bernard Greenwell, has righly observed:

"Health is a whole. There is no separate human health, no separate animal, no separate vegetable, no separate soil health, and the way in which this whole can be got and maintained is that every living thing in it after its death should not be treated as waste but be returned to fhe soil. All dead animal and vegetable matter must be returned to the soil, so as to live again, if the whole or health of life is to be preserved. This is

the first rule of life that gives to it wholeness, holiness and health."

This is the truth, the great truth, the eternal truth of India. But here are we, wonderful mimics, who, in spite of the sad experiences of the West are bent on using tractors and fertilisers. Both wisdom and economy, therefore, call upon us to develop our old culture of agriculture and devote our time and attention to a proper and efficient utilisation of the bullock and animal and vegetable manures. The question of using buffalo for draught does not arise at all. It is hardly so made use of, except in certain wet parts of the country as Malabar. We have, therefore, no option but to employ bullock (a son of the cow) for our agricultural purposes.

Bullock, besides being the animal of draught, provides us almost the only means of safe transport in our villages. Railways, though spread all over the country, have so far covered towns in general. Motor buses have gone into the interior, but only so far as has been covered by pucca roads. Throughout the thousands and lakhs

of villages connected by rugged and kaccha roads and lanes and pathways, bullock cart is the only means of conveyance in all climes. A villager in India relies for his transport and communications more on the bullock cart than on any other vehicle.

There are yet other uses of bullock in our daily life. It presses at the "Ghanies" our oil-seeds and converts them into edible oils for man and khali for the animal folk. It pulls out at the "Rahet" buckets from a well and thus helps in irrigation. It grinds our wheat and like cereals into flour. In fact the uses of bullock are almost legendary.

Thus bullock is the main source of motive power in India. It is our combustion-engine, tractor, motor etc., all combined in one. And we are obliged to the cow for it, not to a buffalo or any other creature.

Not very long ago, about a dozen bullocks were harnessed to every plough in our country, whereas we cannot afford even one at present. Again, in *Ain-i-Akbari*, Abul Fazl writes that in those days bullocks covered as much as 160 miles in 24 hours. The condition to-day is too well-known.

Surely it is on account of the wretched conditon of the bullock that our food production is so poor that we are able to grow only 8 maunds of rice in an acre of land wherein America can grow 37 maunds and Egypt 41 maunds.

But what is this miserable plight of the bullock due to? Assuredly, to the mother cow. We cannot both neglect the cow and yet have a strong bullock, any more than we can eat the pudding and yet have it. Only a good and happy cow can give us a strong and sturdy bullock.

Thus the need of keeping cows can not be stressed too much. Undoubtedly we cannot afford to keep the buffalo for milk and bullock for draught. Even if we could, our bullock would be more deteriorated than it is to-day on neglecting the mother. So why this useless and unusual fondness for buffalo when its milk is also definitely inferior to that of the cow?

In no case, therefore, should we insist on keeping buffalo or having its milk. Anything can be hardly more criminal. For every drop of buffalo's milk that we use,

every lump of buffalo's ghee that we take, we commit so much crime against the cow, nay, crime against our ownselves. This is why the GO SEVA SANGH stressess on cow's milk alone.

Cow' s milk alone. Yes, only the cow's. If we want to save ourselves, if we want to make our villages and villagers happy and prosperous we must care only for the cow at the present juncture. Let us not worry about the buffalo. It shall take care of itself or return to the wild jungle it came from. It will live there and make merry.

In a nutshell we should, as we must, keep cow and only cows. Not only because its milk is the most nourishing and nutritive and protective food, not only because we can prepare nice dishes out of its milk and butter, not only because it is the mother of the bullock which is used for draught and irrigation and transport and for a thousand other purposes, not only because its urine and dung supply rich manure to our soil, but because we have no right to utilise the services of the animal and vegetable and other kingdoms unless we repay them, partly if not wholly. It is impossible to repay

them one and all, their number being a legion. A representative of these kingdoms must be chosen. Without any hesitation one may safely assert that there can be no better representative than the one chosen by India milleniums ago—the cow. Let us, as a call of duty, serve it and do the little what we may. If we want to live the only way is to let the cow live. Verily,

Who dies if Cow lives?
Who lives if Cow dies?

CHAPTE III

Milk—The Perfect Food.

"Milk is the only balanced ration—balanced by the great Chemist who is far away—**Edition.**

As Prof. Ullmann of Germany says:

"Milk is the product obtained from the milkglands of female animals from the time of the birth of the young ones as required for their nourishment. It contains to a sufficient degree all the materials necessary for the building up and the growth of the various animals."

This is why the growing ones, living on their mother's milk, get doubled in their weights during periods as shown below:

Table III.

No.	Animal	Number of days required to double the weight.
1	Hare ...	6
2	Sheep ...	15
3	Cow ...	50
4	Horses ...	60
5	Children ...	180

Milk essentially consists of the following constituents:—(i) Water, (ii) Fat, (iii) albuminoids consisting of casein (a protein) associated with which are lactalbumins, (iv) milk sugar, (v) salts or mineral contents, (vi) vitamins, and (vii) enzymes.

Bradly these constituents may bə divided into water and solid constituents. Again the solid portion consists of (i) fat, and (ii) non-fat contents. About 4·8°/。 of milk is fat. It is a combination of glycerine and fatty acids. Milk contains a large number of fatty acids: oleic, palmitic, stearic, myristic, caproic, butyric, caryllic, capric, lauric, arachidic and linoleic.

The average non-fat content of milk is 8·9 per cent, with a minimum of 8·5 per cent. Of this non-fat matter about 38·5 per cent are albuminiods. The most important part of albuminoids is casein which is a protein, technically a phospho-protein, present in varying quantities from 2·2 to 3·5 per cent, the average being 2·86 per cent, about 84 per cent. of the albuminoid content. Casein is not easily digestible. Along with it are found two other proteins, lactalbumin and

lactoglobulin, the latter being about half as much as the former. Unlike casein they are easily digestible.

Sugar occurs in milk in the form of lactose which is a disaccharide that can be broken up into glucose and galactose. Lactose and fat are present almost in the same quantity in milk.

Salts constitute the mineral coutents, also called ash as they are left over after milk has been dried and ignited. The percentage of salts in milk is very small, 0·72 per cent. But it is *the* significant part and because of it milk has earned the proud appellation of the most important protective food of mankind.

These salts consist of phosphates, citrates, carbonates and chlorides of metals like calcium, potassium, sodium and copper. The minerals lie in solution or suspended state and are, therefore, not visible, but they can be separated by chemical appliances.

The average composition of an Indian cow milk can be illustrated as under:

- Milk
  - Water (86·3)
  - solid (13·7)
    - Fat (4·8)
    - Non-fat (8·9)
      - Albuminoids (3·42)
        - Casein (2·86)
        - Lactalbumin (0·38)
        - Lactoglobulin (0·18)
      - Sugar (4·80)
      - Salts (0·72)

Milk is very rich in vitamins. Practically all the vitamins known to science are abundantly present in milk, particularly the vitamins A, D and E. The vitamins in cow's milk are :—

A + ; D, o to + + ; E + ; B + ; B_2 + + ; C +.

The amount of vitamins as also of enzmes and friendly bacteria and such other essential ingredients in milks vary from species to species. Also in the same species differences have been observed according to the nature of the individual, its age and health, stage of laction climate and environment of the place etc. The enzymes present in the milk are: Galactase, Lactase, Diastase, Reductase, Lipase, Protease, Phosphatase,

Olienase and Gatalase. They render the very useful purpose of destroying toxins and ptomaines in the system. They also eliminate poisons and thus help digestion.

As regards the bacterial content, Dr. Kellog, the celebrated physiologist, observes:

"Milk may contain about 24 kinds of bacteria if kept long exposed to infection. Nature has provided in milk and butter-milk lactic acid bacteria as the most benigned bacteria in the world. They may be from 5 to 10 lacs in one cubic centimetre of milk and 5 to 10 crores in the same amount of sour milk. If these products are kept free from exposure these friendly bacteria thrive in large numbers and kill almost all of the 120 kinds of probable bacteria—the intestinal flora in the human system."

Thus rich in proteins, minerals and vitamins, milk has been universally recognised as an ideal food. Of all foods only milk supplies the different amino-acids in reqired proportion.

But the most important factor in favour of milk is that a vegetarian people have hardly any other source of getting animal protein and animal fat except milk and its products. That animal protein and fat are both required for the growth and development of our body none can deny. But there

is no substance or group of substances in the vegetable kingdom which can cater these vital elements for our body. Non-vegetarians of course can get the same from eggs and meats. Carbohydrates can be obtained from cereals and nuts etc; salts from the various vegetables and leaves, but not so the animal proteins and fats. For a vegetarian milk is the only food which can give proper nutrition and nourishment.

Besides, recent researches have shown as Dr. D. V. McCollum points out in his book, "*The Newer Knowledge of Nutrition*", that amongst the different food-stuffs all the proteins, sugar, fats and minerals are not of the same quality and those from milk are "perfectly balanced" and of a "very high order".

Milk has, therefore, been called the most perfect food known to man. A detailed and beautiful study in this connection has been made by Prof. Dr. N. N. Godbole in his inimitable work "*Milk: The Most Perfect Food*", which every one interested in food and dietetics will do well to go through.

CHAPTER IV.

Why Cow's Milk?

Not only has it been demonstrated in the laboratory that milk is richly endowed with protein of high biological value, and with important mineral salts and vitamins, but we can appeal to clear-cut and dramatic experiments proving that cow's milk posseses remarkable value as a food for human beings—**Aykroyd**.

In a previous chapter we have seen the superior importance of cow against the buffalo. That apart, cow is valuable to us as a dairying animal as well. As we shall-shortly see, we should take to cow's milk and its products for pure scientific reasons too.

It has been pointed out in the last chapter that a diet on mother's milk doubles the weight of the child in about six months. It is obvious that the nearer a milk is to mother's milk in its contents the more useful will it prove to be.

The following table gives the composition of various milks (according to Godbole–Sadgopal) from different creatures :-

Table IV

No.	Origin	Total solids	Albuminoids	Fat	Milk Sugar	Ash
1.	Cow	12·9-14·5	3·4-4·0	3·0-3·85	4·5-5·2	0·45-0·65
2.	Goat	12·6-13·2	3·6-6·2	3·2-3·95	4·0-5·3	0·6-0·82
3.	Sheep	15·5-19·5	5·8-7·5	5·8-7·5	4·5-5·0	0·6-1·3
4.	Buffalo	18·0-22·5	5·3-6·0	6·5-3·75	5·0-5·4	0·7-0·95
5.	Mare	9·5-11·2	2·1-2·55	0·6-1·8	6·0-8·5	0·3-0·4
6.	Ass	9·16-9·53	1·6-2·0	1·3-1·5	6·28-6·5	0·4-0·48
7.	Mother	11·5-13·5	1·0-1·65	2·0-3·65	5·5-6·5	0·15-0·25

The percentage average composition of these milks is shown in the next table:

Table V

	Sp. Gravity	Water	Protein	Fat	Sugar	Ash	Total Solids
Woman ...	1·0298	87·58	2·01	3·74	6·37	0·30	12·42
Cow ...	1·0313	87·27	3·39	3·68	4·94	0.72	12·73
Ass ...	1·0320	90·12	1·85	1.37	6·19	0·47	9·88
Sheep ...	1·0355	83·57	5·15	6.18	4·17	0·93	16·43
Goat ...	1·0305	86·88	3·76	4·27	4·64	0·85	13·12
Mare ...	1·0347	90·58	2·05	1·14	5·87	0.36	9.42
Buffalo (Indian)	1·0298	81·92	4·25	7·55	4·75	0·89	18.08

Dr. Godbole and Dr. Sadgopal have also investigated the proportions of the carbohydrates, fats, and nitrogenous matter in the different milks.

Table VI

Animal	Goat	Buffalo	Cow	Mother	Ass
Carbohydrates: Fat: Albuminoids.	1·5: 1:1	1:1.5:1	1.5:1:1	5 :2:1	5:1:1

From the above table one fact stands out conspicuously, viz., the fat content of buffalo milk, which renders it heavy, less digestible and less akin to mother's milk. It, therefore, firmly establishes the superiority of cow' s milk over that of the buffalo.

Dr. Godbole and Dr. Sadgopal also observe:—

"The above calculation shows the superiority of ass's milk over mother's and that of the mother's over the cow's which in turn is better than all other milks as a human food material. It has been also quoted above that the chief constituents of food required in the case of a healthy human being should be in the ratio 5: 1: 1 approximately. It is extraordinary that nature should have been so very partial to an animal like the ass that is so little trusted with common sense. Ass's milk is used in India as a special milk in the case of sickly children who cannot digest mother's milk."

No less is cow's milk remarkable for its mineral content. A large number of metals like calcium, sodium, potassium, copper, zinc, and manganese can be traced in both the milks. But the mineral of minerals—iron— has been found to occur in no other milk than cow's. Again sulphur and iodine are present only in the milks of goat and cow.

Finally, the most prominent feature of a milk is the yielding mother. As the mother so the milk. We have already had a comparative study of different milks. But one thing has been specially noted in the case of cow. The quantity of her milk at a time varies according to her mood as also to the treatment meted to her. She is a simple marvellous creature She responds to grooming, to kindiiness and to music. In his book, "*Romance of the cow*", Shri Dhayabhai H. Jani, quotes:

Though grooming may not increase the yield of milk, it does improve its quality by lessening the number of bacteria contained and may improve the health of the animals.

When the cow is freed of the ticks and other pests sucking her blood, she responds to it by increasing her milk flow upto 33%.

She responds to the tunes of music upto about 16% of milk increment.

Like one of our own kith and kin, the greater the service and care bestowed upon a cow the more its yield (both qualitatively and quantitatively) and utility for us.

To sum up, the difference between the two milks is shown in the following table:

Table VII

Cow's Milk	Buffalo's Milk
1. Nearer mother's milk in composition.	1. Highly different
2. Rich in minerals.	2. Poor, especially as regards iron, sulpur and iodine.
3. Rich in vitamins.	3. Poorer.
4. Easily digestible and hence more nourishing.	4. Digestible with difficulty and hence less nourishing.
5. Lactococcus bacillus multiplies more freely in cow's milk than in buffalo's. The proof of this fact lies in the easier and quicker curdling of cow's milk.	5. Less freely.

Cow's Milk.	Buffalo's Milk.
6. Milk as an emulsion, in the natural state in which it is obtained, is more suitable, as the fat globules, being smaller and more numerous with the proteins hidden in them, render cow's milk-fat and cow's milk proteins easier and lighter of digestion.	6. Not so suitable.
7. Different lacto-products very healthful.	7. Not so healthful.
8. Can be easily detected on adulteration.	8. It is frequently adulterated to resemble cow's milk (!) and cannot be easily detected.
9. Excellent from medicinal point of view.	9. Not so useful.
10. It is demulcent, and does not set up or increase the normal quantity of slimy secretions in the internal channels of the body. It is heavy and is a good elixir and proves curative in haemoptysis. It is cold and sweet both in taste and chemical reaction. It subdues both Vayu and Pittam and is accordingly one of the most efficient of vitalisaing agents.	10. It is sweet in taste, tends to impair degestion and increases the slimy secretion of the organs. It is heavy, soporific, cooling and contains more fatty matter than cow's milk.

CHAPTER V.

Cow as Foster Mother

As pointed out earlier, India has conferred a religious role upon the cow, having raised her to a goddess. But significantly enough, the appellation given is not *Go-Devi* but *Go-Mata.* The sweet word *Mata* is more attached to cow than to any other goddess in Indian mythology. It is intimately associated with her. No poet's fancy can be responsible for this association. But like true scientists our ancients reached this conclusion after a long unbroken series of observations. Next to the real mother, cow is the *de facto* mother of child and continues to be so all along its journey to the end, which made Edison say: "I came in with milk and I guess I will go out with it"

For infants and children milk is *the* basic food. Prof. M. J. Rosenau of Harvard Medical school says, "Milk in fact is the only single article of food that fairly represents a complete diet. It is unexcelled for growing children. It has no equal for the promotion of growth as nutrition."

Another expert, Doctor Ralph A. Hyne opines, "If you want your children to grow into big strong men give them milk and butter three times a day".

Dr. H. C. Carry Mann, O. B. E. M. D., of Medical Research Council, England says:

" While the importance of milk as an item in the diet of children has long been widely recognised, it is nevertheless startling to learn that addition of one pint (1/2 seer) of milk a day to a diet which itself satisfied the appetite of growing boys could convert an average annual gain of weight of 3·85 lbs., per boy into one of 6·98 lbs. per boy and an average increase of height from 1·84 inches per boy to 2·63 inches per boy."

The following table illustrates it.

Table VIII

Food supplied	Milk	Butter	Vegetable Margar.	Sugar	Casein	Cereals diet
No. of children	41	26	16	20	30	61
Average increase in weight in one year (lbs)	6·98	6·38	5·21	4·93	4.01	3·85
Average increase in height in one year (Inches)	2·63	2·22	1·84	1·94	1.76	1·84

Dr. Mann further remarks:

"Coincident with this striking increase in weight and height boys receiving milk could be easily picked out by a casual visitor as being so obviously more generally fit and there was a complete absence of illness among them during a period when in the other houses there was a higher sick rate than usual."

The following table shows the effect of a supplement of whole milk on growth of school children.

Table IX

	On Milk				Control			
	Average gain in 3 months.				Average gain in 3 months.			
	Boys		Girls		Boys		Girls	
Groups	Wt. lbs.	Height inch.	Wt. lbs.	Height inch.	Wt. lbs.	Height inch	Wt. lbs.	Height inch
I	3·92	0·80	5·35	0·78	1·60	0.60	1·1	0·18
II	3·90	0·70	4·33	0.38	1·56	0·46	1·0	nil
III	3·70	0·53	3·00	0·19	1·90	0·42	0.5	0.07
IV	...	...	5·50	0·29	...	...	0·5	nil
Average	3·84	0·67	4·54	0.41	1.6	0.49	0.92	0·06

Further, the result of giving extra milk to school children is shown in the table below :—

Table X

Boys				Girls			
Average gain in 3 months.				Average gain in 3 months.			
In weight		In height		In weight		In he ight.	
with extra milk b s.	without extra milk lbs.	with extra milk inch.	without extra milk inch.	with extra milk lbs.	without extra milk lbs.	with extra milk inch.	without extra milk inch.
3·84	1·6	0·67	0·49	4.54	0·92	0.4	0.06.
3.76	2.02	0·63	0·43	6.76	1·50	0.56	0.24
3·62	2·63	0·63	0.53	5.72	1·42	0.46	0·41
2·79	2.02	0·53	0·45	2·10	0·13	0·52	0·15
4.77	2.13	061	0·35	4·80	0·80	080	0·56

Such is the fostering influence of milk. We have seen how little or almost no milk in our diet has brought down our average age to 23 and what a terribly large number

of our children die before they complete 12 months.

These facts can be basically altered if they are given milk and more milk. In our country too, however, experiments of the supply of milk to school children have been made and its effect noted down. The two tables above (Nos. IX and X), reproduced from Dr. Satish C. Dasgupta's famous book, "*Cow in India*", go to show the great influence of milk on the health of children,

The necessity of supplying milk to school children cannot be stressed too much. Our various provincial and central Ministries perhaps know it but fail to realise it for want of finance! The vicious circle of 'no money > no milk > no health' must be broken for we cannot afford to lose or weaken our proudest and most valuable possession—our young children, the citizens of tomorrow.

The large infantile mortality, the low average age, the poor physique, the multiplicity of diseases of our countrymen are doubtless due to the deficiency of milk (or its products) in our daily usage. As shown earlier, a fairly large number of people is

vegetarian and cannot take eggs or meat. Thus they have no food by which they can supply animal protein to their bones and animal fat to their flesh. It is only milk which can perform this function. Those of yore realised it fully and in humble gratitude called cow *the* mother, the source of health and plenty.

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CHAPTER VI.

Why Cow's Ghee ?

We have dealt with the importance of cow and its milk. But of the entire milk produced in India, a little more than a quarter only is consumed as food in fluid form. The rest (72%) is converted into various products as shown in the table below:

Table XI

Usages of milk in India.

	Annual quantity. (lakh mds.	Percentage to total production.	Percentage to total quantity converted into products.
Consumed as fluid	1,762·18	28·0	...
Converted into ghee	3.589·14	57·0	79·2
,, Khoa	311·67	5·0	6·9
,, Curd	327·95	5·2	7·2
,, Butter	107·56	1·7	2·4
,, Ice-Cream	21·35	0·3	0·5
,, Cream	23·62	0·4	0·5
;, Other products	149·44	2·4	3·3
	6,292·91	(100)	(100)

We notice that a major portion of milk is converted into *ghee*, our equivalent for what they call butter in the West. It is in the form of *ghee* that milk-fat is largely taken in India unlike butter which is far more difficult to keep.

The general process of preparing *ghee* is to convert milk into *dahi* which is then churned. So doing the fat floats up and is then removed. On heating this is turned into *ghee*. The fluid that remains behind when the fatty stuff has been removed after churning is called *Chach* or butter-milk.

Ghee is yellowish blue in colour on account of its carotene content. On the other hand buffalo ghee is white in colour as it has almost no carotene. With the conversion of the carotene into vitamin A ghee's colour gets fainter.

Cow's ghee has a flavour and aroma of its own. It can be kept for a fairly long time. On account of this property it has become the basic fat-giver of vegetarians. As the report on the marketing of milk (1941-42) says:

"It keeps good for long periods even under tropical conditions of storage and ordinary packing. This accounts for its

extensive manufacture. The few available results of keeping quality tests show that well-made *ghee* can remain good for about two years and can be reconditioned by clarification. No other indigenous product keeps so well and for such a long period, nor can it be reconditioned likewise."

In its chemical composition *ghee* is a combination of various fatty acids:

Table XII

Fatty acids.	Per cent.
Butyric acid	4
Caporic acid	2
Caprylic acid	1
Capric acid	2
Lauric acid	4·5
Myristic acid	10
Palmitic acid	26
Stearic acid	10
Oleic acid	34·5
Linoleic acid	5
Unsaponifiable	1
	100·0

Its melting point ranges from 28·5° to 42·0° C., and it solidifies between 15° and 23·5° C. Of the various fatty acids in *ghee*, Stearic and Palmitic acids are the non-assimilable constituents, as shown by Drs. Godbole and Sadgopal:

Table XIII

A comparison of non-assimilable constituents of various fats:

No.	Consituents.	In Cow-Butter fat accoding to Holde, Bley and Grun.	According to Godbole Sadgopal in Cow-Butterfat. (Average of about 40 samples)	Buffalo-butterfat
1.	Stearic Acid	1·1-5·9%	10%	12%
2.	Palmitic Acid	11·8-17·5%	26%	31%
3.	Acids higher than Stearic	...	...	0·3%
	Total	12·9-23·4%	36%	43·3%

The general assimilability of cow's ghee as against other fats, and coconut oil is given in the following table :

Table XIV.

No.	Fats	Non-assimilable Palmitic Stearic glycerides	Assimilable Oleic Linoleic glycerides	Easily Assimilable Lower fatty-acid glycerides
1.	Beef Tallow	52%	46%	2%
2.	Mutton Tallow	55%	42%	3%
3.	Lard	40%	60%	...
4.	Buffalo-butterfat.	44%	34%	22%
5.	Cow-butterfat	36%	40%	23·5%
6.	Coconut oil	9%	11%	80%

As against this, the composition of human fat is:

Stearic Acid	4%
Palmitic Acid	16%

(Drs. Godbole & Sadgopal)

This shows that of the two ghees, cow's ghee is nearer to the composition of human body-fat than the buffalo's ghee. Drs. Godbole & Sadgopal further observe:

1. Cow's butterfat is know to have iodine in its composition whereas no data is available on this point in the case of buffalo butterfat.

2. Both cow's butterfat and buffalo-butterfat contain vitamins And D but cow's butterfat is richer in vitamin A while the other is richer in vitamin D.

3. Butterfat as such is any time better than tallow, lard or vegetable ghee.

4. Cow's butterfat is richer than the buffalo-butterfat in total assimilable and digestible parts and is, therefore, comparatively ***more suitable*** for children and weaklings.

Thus cow's ghee is definitely a better stuff than buffalo's ghee. As Satish Babu says in his, "*Cow in India*":

Cow-ghee contains ten times carotene vitamin; a decisive facter in favour of cow-ghee is that it is superior to buffalo-ghee as a nutrient.

Besides fat, *ghee* has the most valuable constituent Vitamin A. It has been proved also that carotene, a colouring material, is the precursor of Vitamin A, and is really a Vitamin A substitute. The difference between cow and buffalo-ghee lies in their carotene and vitamin-contents. Cow-ghee has 20.9 I.V. units carotene per grain against 1·9 units of the buffalo. (Majumdar)

In a paper on the carotene-content of cow and bufflo butterfat by Bal it is claimed that while the carotene content of buffalo butterfat is between 20 and 30 micrograms in 100 grams, that of cow butterfat is between 200 and 570 micrograms. (Bal and Shrivastava, Nagpur University Journal, 1940, No. 6)

"Cow-ghee is superior to buffalo-ghee in regard to the stability of its Vitamin A towards heat." (Banerjee: Agriculture & Live-

stock in India. January, 1937). The little vitamin that the buffalo-ghee has suffers worse under heat.

Ghee has to be heated for cooking. On heating, buffalo-ghee loses more Vitamin A than does cow-ghee. It has been found also that the presence of carotene works as a preservative, preventing destruction and oxidation of the ghee by storage (Banerjee. 'Agriculture & Live-stock in India' March, 1938) and buffalo-ghee has been found to have hardly any carotene (Majumdar).

It will thus be seen that on all scores cow-ghee comes out many times superior to buffalo-ghee. Therefore, the two products, cow and the buffalo-ghee, should be valued separately by the consumer and the seller. All these are reasons of health for which cow-ghee should be preferred to buffalo-ghee and cow-milk. The other and the most overweighing point has already been considered regarding the future of the cultivator, should he continue to neglect the cow and give preference to the buffalo. It has also been shown that the cultivator will be able to produce both ghee and milk cheap from a well-nourished cow than from a buffalo.

In their own interests the cultivator-breeders should give preference to the cow in the milk and ghee market, and the consumer also should give preference to cow-products.

But whatever ghee is available in the Indian market is 'ghee' in name only. As Prof. N. Gangulee, Ex-Member of the Royal Commission on Agriculture, in his "*Health and Nutrition in India*", says:

Since the demand for ghee, a good source of animal fat available to the vegetarian Indian, is greater than the supply,

the practice of adulterating it with vegetable fats derived from cottonseed, poppyseed, groundnut, mahua, and other similar inexpensive oils is extremely common. It is interesting to note here that adulteration is usually effected, not by the dairymen, but by the traders. Some of them do not even hesitate to use fats obtained from the carcases of diseased and dead animals !"

Such is the tragedy of *ghee* in India. In the name of *Vanaspati* it is prepared and sold in tons and tins and a people as lay as we consume it as real ghee. The usurpation of ghee's place by Vanaspati is one of the greatest curses that has largely eaten into the fabric of our physical and economic well-being.

Office of the Gramasevaks Training Centre Gandhigram.

CHAPTER VII.

Chach the Deliverer

'*Takram Tarakam*'—Vinobaji.

As said in the last chapter 'chach' is the fluid obtained after butter has been removed from churned dahi. The butter-milk or chach, therefore, contains all the constituents of milk except fat and the fat soluble vitamin A.

The average composition of butter-milk is given in the following Table.

Table XV

Water	91·0%
Fat	0·5%
Proteins	3·5%
Milk-sugar and lactic acid ...	4·0%
Ash	0·7%

In the words of Dr. Godbole: "Butter-milk contains less fat than milk and also

contains 3 to 4 percent. of proteins completely digestible, whereas that of milk is not so fully digestible."

Butter-milk is the cheapest nourishing material as is clear from the following comparison:

Table XVI.

Articles.	Price of one kilogramme.	Nourishing units for one Kg.	Cost of 100 nourishing units.	Nourishment for one Rupee.
		Calories.	as.	Calories.
Eggs ...	As. 15	890	more than $1\frac{1}{2}$	944
Beef ...	,, 8	1225	more than 1/2	2450
Pork ...	,, 9	1749	nearly 1/2	3498
Skimmed milk	,, 1	214	nearly 1/2	3424
Butter-milk	,, 1	224	less than 1/2	3584

No doubt, chach is a very valuable and nourishing drink. The effect of chach on children is simply wonderful. Experiments in this connection have been conducted at

Ujjain. For six months from November 1939 to April 1940, a batch of children of ages between eight and twelve were given as their midday breakfast different articles including chach and whole milk. The results were as follows:

Table XVII.

No.	Diet	Amount per boy per day	Increment per boy in 6 months in lbs	approx. daily expenditure per boy per day in pies	Remarks.
1.	Chach	25 tolas	5 1/2	2	saltish
2.	Whole milk	25 ,,	3	7 1/2	sweet
3.	Skimmed ,,	25 ,,	3	3 1/2	
4.	Calcium Lactate & sprouted gram	10 grains 2 tolas	2	1/2	
5.	Sprouted gram	2 ,,	2	1/2	
6.	Calcium Lactate	10 grains	2	1/2	
7.	Without nourishing food	,,	1		

It is remarkable that chach has given results better than even whole milk. At first people thought thet there was something wrong somewhere in this experiment. It was therefore repeated from 15th October 1940 to 31st March 1941. The new results were :

Table XVIII.

No.	Diet	Amount per boy per day in tolas	Increment per boy in six months in lbs	Approximate expenditure per boy per day in pies
1.	Chach with salt	25	5	2
2.	Milk (Sweet)	25	3	9
3.	Those without breakfast	...	3	...

Thus it was established that butter-milk is the cheapest and most useful nourishing material. The authorities of the Malwa Creamery contacted the Agricultural Institute, Naini (Allahabad). communicated results and wanted Naini opinion on the subject. To that Prof. James N. Warner, Head of the Department of Animal Husbandry and Dairying, gave a very appreciating reply in

the course of which he observed:

"The authorities in the West indicate that sour milk is better as a food than sweet milk. The difficultyt hat is encountered in suggesting its use, however, is its flavour, to which most people object. The value of sour milk which would be comparable to chach lies in the form in which its carbohydrates occur, that is, a large part of milk sugar has been converted into lactic acid which is very useful as a food. For some time it was thought that certain lactic acid producing oranism, especially Lactobacillus, acidophilus, has marked theraupeutic properties by reason of the assistance they give to digestion in the intestinal track. Most recent findings, however, do not confirm this, although there appears to be some benefits resulting from their occurrence in the intestines; possbly your Chach actively inoculated the intestinal track of the school-children. I believe, however, that the lactic acid contributed mostly to the results you obtained from the use of the Chach."

Our ancients realised the importance of butter-millk very clearly. More recently, Vinobaji met a boy who was suffering from itching and wanted a medicine to cure it. The saint of Paunar asked him to take some butter-milk prepared from cow's milk every morning. Verily the boy was cured. Sri Vinoba further says:

'It is the sum and substance of my experience of the cow that the cow's fresh butter-milk is a great deliverer for the villager. For that I have coined one Sanskrit formula, 'Takram Tarakam'.

Hail the great deliverer, Chach !

CHAPTER VIII.

Cow Vs. Buffalo.

As the mother so the milk. We have examined elsewhere the validity of this simple saying which is true not only as regards different species but also with the different individuals of the same species. Nay, the same mother gives different milks in different moods and circumstances. Hence the necessity of observing sincere regard and rendering honest service to the mother.

Once in a speech while delivering the presidential address of the first Goseva Sangh Conference at Wardha, Vinobaji urged upon the importance of Goseva and described a true incident establishing this fact. Some three or four cows were once maintained in his Ashram and a worker looked after them. One day the worker had gone to the city and returned late. He was told that inspite of all attempts one cow had given no milk. Astonished, he thought for a while, and inquired of his

friends whether somebody had beaten his cow. He was replied in the affirmative. Then he recovered himself and lovingly patted the cow and entreated her in his own way. Thereafter he took a bucket. And, Lo and behold! the cow gave its full quota of milk! This also reveals how human an animal the cow is.

Now our greatest asset is a good health as a bad one is the worst liability. A good health is the direct consequence of a good, wholesome food. Of this food the most vital constituent is milk. We have various animals which can yield milk, viz, elephant, horse, ass, sheep, goat, buffalo, aud cow. Obvioualy, the most easily available of these are only three—goat, buffalo and cow. We have to choose one amongst these.

On elementary considerations we reject goat; firstly, because, thanks to its teeth, it is the biggest enemy of any crop or plant. Let it once slip out and reach a plant. It shall eat it up almost from the very root. Secondly, even if we may be able to keep a constant vigil over it and get a plentiful supply of milk which is very doubtful, we

have no use for the male progeny, except as meat. The more milk we get from the she-goat, the more he-goats we have to kill. Surely we should seek some other source so that we may not be compelled to commit the crime which is not so unavoidable. There, therefore, remain in the field only two, the buffalo and the cow.

Of late buffalo has become a serious rival. Men with official authority have begun to appeal to the public to maintain buffalo for milk and merely for milk. Never was a more thoughtless advice given to our people.

We have shown the inferiority of buffalo's milk against that of the cow. Again, we have shown the inferiority of buffalo's ghee against that of the cow. It may also be pointed out that as a milk-giver cow has far greater potentialities than her rival. They only need be seriously searched and developed. We of India miserably lack in the art and science of keeping a cow. We have to learn it from the West, especially Denmark. Mention must be made here of that remarkable cow '*Jeel*' of Bangalore

Dairy about which the late Shri Mahadev Desai rightly said: "If leading a pious and useful life is the way to reach God, surely this Go-Mata was far more deserving of the great abode than many a creature called man."

Shri Dhayabhai H. Jani, the author of "*Romance of the cow*", gave an obituary note on '*Jeel*' in the *Navajivun*, dated 27 Oct. 1929. He wrote: "During her lifespan of $19\frac{1}{2}$ years, she yielded 157, 779 lbs. of milk, 10 heifers and 7 male calves. She was a cross between Ayrshire and Hariana (Punjab). The annual production for 16 years averaged 9544 lbs. She was wet for 295 days every year, that is 83 percent. days. Her highest record in a single lactation was 12, 002 lbs. averaging 41 lbs. per diem.

According to the then rates, its total output was:

Milk Rs 9736 Manure ... Rs. 1365
Calves Rs. 2700 Approximate total Rs. 13,000.

On present rates, twenty-three years after, the total would be about fifty thousand rupees!

It is on account of this superior quality of cow's milk that it has found a solid place in our Ayurveda. In a number of diseases cow's milk is used, in others its curd, its butter its ghee, its chach and above all its dung and its urine.

It cannot of course be said that buffalo's dung and urine are not so serviceable as those of the cow. Experiments in this direction have yet to be made to establish the truth. But so far as milk and *ghee* are concerned, those of the cow are rightly regarded to be of superior quality, especially because of their carotene content. No wonder, therefore, that for medicinal purposes cow's milk is always preferred. And no wonder, again, that buffalo's milk is adulterated in order to appear as cow's milk!

We cannot help here quoting Prof. Ioa Tweed's advice given to all parents:

"Those parents who really desire a good of their children should never given them buffalo's milk. Buffalo's milk is not a suitable food for man."

It is the heaviness or some such thing and things that have made buffalo's milk injurious. It may be worthwhile to recall

the personal experience of a prominent Conress worker, Sri Achal Singh of Agra. He says:

"I was fond of exercise and wrestling from my very childhood. I used to take about 2 seers of buffalo milk every day. The result was that every year in August or September I caught fever and 'pitta'. But from 1930 I discarded buffalo's milk and began cow's instead. Also I observed fast twice a month. The wonderful effect of this milk is that for the last 20 years I have neither fallen ill nor ever fallen a victim to 'pitta'. I appeal to all my countrymen to take cow's milk only as far as possible."

But milk is and should not be the only consideration for our preference. Milk is but one part of our food. The major portion consists of cereals and vegetables, for which we have to resort to the mother earth for carrying on agriculture. We, therefore, require something to plough our fields with. The inefficiency of tractors for our soil has been pointed out earlier. We have to take the help of an animal. Such a one is but the cow s male-spring for the one of buffalo is unserviceable in the fields. In fact, in a large part of India, agriculture is impossible, rather inconceivable without a bullock. Of course, in wet parts of the country such as Malabar where he-buffalo can be used for

draught, we may keep the buffalo for milk, not otherwise.

So when we require bullock for agriculture, i.e. our food supply, there is no use of maintaining buffalo for milk alone. In other words, keeping bullock for field-work and buffalo for milk means killing the he-buffalo and cow! Absurdity cannot go further. Even suppose it could, do we expect strong bullocks from cows which we keep only to kill?

Buffalo, again, is a symbol of dullness. It is highly immune to external atmosphere. There is a famous proverb: no use playing on a flute before buffalo. On the contrary, as we have seen, cow is nothing but human. Krishna of yore discovered and touched this aspect of the cow and brought about a fundamental revolution in the life of his countrymen. People do not remember of a Krishna adept in the craft af warfare or of a Krishna expert in the knowledge of the arts and sciences and shastras, but they remember him for his magical flute which he played for his cows and made them dance around. He converted a meat-eating

and cow-killing people into a milk-taking and cow-worshipping one. What greater right could one claim for immortality?

Thus not culturally alone but from the triple considerations of health, food and agriculture as also of transport, in a tussle between cow versus buffalo, we have to fight on behalf of and for the cow. No sacrifice would be too great for this dutiful support.

CHAPTER IX

Cow in Indian Economy.

Everybody wants and loves power. But power is of various kinds. Economics is the science of capturing material power. Civilization, as taught in our schools and colleges, is measured by the progress of man on the road to discover the ways and means to enjoy this control over power. By the use of power they turn the soil out and cultivate it to produce food, run mills to prepare cloth, make motors and railways and planes for transport etc. Formerly horse was the source of power. It was then replaced by coal which on burning converted water into steam and the steam-age began. After about a century of overlordship coal's place was taken up by oil, steam was replaced by electricity, latterly by atomic energy. Power is being employed to furnish facilities in every walk of life and civilisation is said to be attaining greater and greater heights. It is a very magnificent, incredibly so, achievement indeed. It has

its own philosophy. It has its own economy too, which, in Prof. J. C. Kumarappa's words may be called the oil-centred economy.

We India are almost at the first rung of the ladder. Let go the oil-centred, we have not fully developed even the coal-centred economy. Our power-producer is the simple old bullock, the counterpart of horse. In the advance of civilization we are thus far behind our Western brethren. Of late attempts have been made to walk faster, discard the bullock and jump right to the top. Our own Republican Government have stirred themselves furiously in this direction.

But unluckily, though better late than never, Europe and America have now come to realise the futility of this mad race for more and more power. As the renowned authority on the subject, Mr. Willfred Wellock says:

"The pursuit of money and power has led to false evaluations all the way round, to an over-emphasis of material possessions and an under-estimate of the treasures of the spirit, of creative power with all its deep satisfaction of friendship and neighbourliness. The secret of the good life is not what we can do, can create, understand, appreciate and express, and thus what we *are* as the result of the exercise of all our powers in fulfilling our self-chosen vocation."

If civilised humanity does not change its economy it is doubtless doomed. But what is the way out? Again, Mr. Wellock suggests:

"I believe the national economy we need is one that makes possible to every person a way of life which includes responsibility, creative opportunity and vital social or community relationships.

"To this end there must take place a large measure of political and economic decentralisation, and the achievement of a considerable degree of self-sufficiency in every regional area. Communities should be comparatively small, and combine industry and agriculture.

"Giantism, whether in factories or towns, is inimical to the demands of human personality. The bigger the social or industrial unit, the less significant and potent is each person in it other than a few at the top. To be one in a million is to be nobody : as a grain of sand on the seashore. Moreover, industry and agriculture must go hand in hand. Nature is man's finest teacher. Living close to Nature sharpenes observation, induces thoughtfullness and meditation, and helps to produce mental balance and stability of character.

"Hence we ought to aim at building social units which conform to the nature of man and the demands of the civilization for which his being, compounded of the material and spiritual, calls. If these principles are sound, I believe the ideal social unit would be sizeable village in which agriculture ran in harness with industry and in whose prosperity and welfare every citizen had a stake, also responsibilty in his or her daily avocation, and an active voice in its economy."

Mr. Wellock recommends "political and economic decentralisation" as the only way out. But more water is to flow under the bridges before this is actually carried out in practice. But here we are simply struck at the wisdom of our ancient sages who discovered this truth long ago and virtually lived it in their life. They declared panchayats as symbol of political decentralization and cow as that of economic decentralization.

Now to come to what this economy means. Cow gives milk which is a perfect food. Besides it can be converted into different products that again can be used to prepare all delicacies. Next, cow gives bullock which is our power-producer. We use the bullock to cultivate the field and to serve as a means of transport. Above all, the dung and urine of both cow and bullock provide us with the finest manure for our fields. Thus we get food and clothing (obtained by performing certain operations upon the cotton grown in fields)—our prime necessities. Again the bullock runs our *kolhus* to press seeds into oils. Last but not the least, after death the cow's flesh can be tanned into

leather for shoes and bones etc. can be used for manure. Thus we are able to meet our basic requirements ourselves, by mutual aid and co-operation, without the power-God *Money* coming in. With an economic independence such as this, couple it to political decentralization and the picture is complete There is no exploitation, no coercion. It is a sweet village home of happy people whose watch-word is *Work*. No foreign market can easily disturb the even tenor of their life. What can stop them then from flying aloft in the great Kingdom and contributing to the highest and the noblest in humanity?

The whole edifice rests on the cow. Fortified from within, invulnerable from without. it can meet all challenge and aggression. Now just remove that benign creature and it all comes down with a crash like a tree whose root has been sapped off The very basis of life is knocked out.

Again. replace the cow by some other creature and it requires no effort to see that there shall be very many holes in the edifice. It would then be easy to attack it from

without and within it shall soon dry up, and the whole thing will crumble down.

Ours is a cow-centred economy according to ancient inheritance. It should remain a cow-centred economy according to modern science. We should not be shy about such an economy. It has survived many an onslaught while those of Assyria, Greece and Rome are no more. It shall survive those of America or Russia and thus compel the starving humanity to retrace its false steps.

CHAPTER X.

The Present Situation (i)

"Nowhere in the world is the cow so feeble, and yields so little as in India. Nowhere is she so badly treated as she is today in India by the Hindus"—Gandhiji.

In the Hindu religion, woman is honoured as Graha-Lakshmi (the goddess of the home). But we have made her into a chulha-dasi (slave of the kitchen). And both of them have conspired to-gether to make the Gomata a mans-data (meat-giver). This is the stark reality. With Gopalan' on our lips, we accept money in the right hand and give over the cow to butcher by the left. Cow in India has almost ceased to die her natural death. It is the most uncared of domestic animals of India. It is the most degraded and depraved of all goddessess. But after all it is Gomata. It has swallowed the insult mute and dumb, and not tried to pay us back in the same coin lest we may be wiped out.

The predicament in which we have placed the cow is, to say the least, dreadful. It is

said and rightly said that we have the largest cattle population in the world. There should be nothing striking about it for we are really a huge sub-continent with a vast area and huge population and ancient heritage. But what is certainly striking is the fact that our cow yields about one-fifth of milk as one of Australia and about a tenth as one of Holland.

Table XIX

Countries	Approximate number of Cows (lakh)	Annual milk production (in lakh maunds)	Percentage to world's total production.	Approx. milk yield per cow per annum	Approx. milk yield per cow per day.
1. Netherlands	14·75	1,355·34	2·43	6,559	20·7
2. Denmark	16·10	1,370·63	2·46	7,008	19·2
3. Switzerland	8·79	694·23	1·25	6,498	17·8
4. Great Britain	26·32	1,784·21	3·20	5,576	15·2
5. U. S. A.	249·91	12,532,33	22·50	4,126	11·3
6. Australia	32·92	1,385·37	2·5	3,463	9·9
7 U. S. S. R.	201·47	5,714·87	10·3	2,334	6·4
8. India	658·00	6,018	10·8	753	2·0

It may be mentioned that the average yield per cow per day was 40 lbs. in Akbar's

time (*Ain i-Akbari*). What a difference from forty to only two!

For want of suitable datas it is impossible to have a full picture of the present situation. Yet those that are available simply confirm the great, sad truth uttered by Gandhiji as quoted in the beginning of this chapter. We shall examine the situation under the following heads:-

(*a*) Condition of Goshalas and Pinjrapoles, (*b* Availability of fodder, (*c*) Slaughter of innocent cows, (*d*) Trade of hides and skins.

Goshalas And Pinjrapoles.

Goshala or the home of cow was once among the most sacred institutions of India. But to make the long story short, it is to day among the most wretched ones. *Pinjrapole* means a place mainly meant for disabled animals, where, however, other kinds of animals may also be maintained. We have about 3,000 Goshalas and Pinjrapoles with a cattle population of over six lakhs which are being maintained at an annual expenditure exceeding six crores of rupees. This means the Goshalas are spending on an average Rs. 100/- per cow.

The estimated number of major goshalas is as follows:

Table XX

Province		Number of major Goshalas
1. Ajmer-Mewara	...	7
2. Assam	...	7
3. Bihar	...	100
4. Bombay	...	110
5. Madhya Pradesh	...	60
6. Coorg	...	5
7. Delhi	...	7
8. East Punjab	...	100
9. Madras	...	50
10. Orissa	..	20
11. Uttar Pradesh	...	180
12. West Bengal	...	25
13. Various states	...	638

As regards the conditions prevalent in these Goshalas and Pinjrapoles, Shri

Sardar Datar Singh, Cattle Utilisation Adviser to the Government of India, says:

1. Goshalas and Pinjrapoles are generally situated either in the vicinity of big towns or in their immediate neighbourhood where feeding and maintenance of cattle are unnecessarily costly.

2. In most of these institutions the tendency is to overstock with the result that the animals are generally underfed and are not properly looked after. This entails great hardship and suffering for the animals.

3. There no means of segregating the productive animals from those which are aged, infirm or otherwise econmically useless. Thus, no discrimination is practicable in the feeding and management of good animals from that of unproductive ones, which makes good animals also worthless after a short time.

4. Land attached to the Goshalas is generally insufficent for grazing of cattle or for raising of fodder crops.

5. Promiscuous breeding is practised as a general rule and no attention is paid to the selection of bulls for breeding which results in further increase in the number of inferior cattle.

6. There are no proper facilities for veterinary aid or treatment of sick animals.

7. Excepting a few Goshalas, which have their permanent funds managed by duly constitutep trusts, the source of income of most of these institutions is from *Dharmada*, Laga or Goshala Cess levied on the sale and purchase of principal commodities in different markets. There are some Goshalas which do not have the patronage of any business community and thus havs to depend entirely on public charities and donations.

Thus it will be seen that income of these institutions is not only spasmodic and irregular but is also very uncertain which is a great handicap in envisaging permanent improvement in their mangement. Moreover, a substantial part of the money deducted as dharmada is not rightly spent and its actual transfer to the Goshala funds rests entirely at the discretion of the persons who collect.

8. These institutions are generally managed by untrained staff, and, therefore, there is no policy according to which the breeding and feeding of different types of animals and their management could be carried out.

Of the six lakhs cattle heads in these institutions more than half are old and weak:

Table XXI

Class	Number	Percentage
1. Good dairy type ...	1,20,000	20
2. Fit for breeding ...	1,20,000	20
3. Old, infirm and unfit for breeding	3,60,000	60

The third category requires special care. On being properly kept and nourished and segregated they may prove to be a blessing. Homes for them are rare in India. One such, *Pashulok*, has happily been started by

Shrimati Miraben near Rishikesh (Hardwar). As regards the other two classes Shri Sardar Datar Singh says:

"It was considered that by better management of animals in the first two categories it was possible not only to substantially effect an increase in the present output of milk from these institutions but also to convert them into centres for the breeding of good bulls and bullocks. It was estimated that by proper handling, an increased quantity of over one million maunds of milk per year could provide about 25,000 males fit for use as stud bulls every year for replacment in the Goshalas and for distribution in the neighbouring areas for the improvement of ordinary village cattle. In addition to this, there will be about the same number of males available, after castration, for bullock work and 50,000 improved female calves every year.

These institutions can also serve the purpose of providing suitable centres for the salvage of dry cattle from cities and towns. At pressent, due to lack of such facilities, a large number of really fit animals, which go to the big towns, find their way to the slaughter houses after they go dry.

The Goshalas and Pinjrapoles are scattered all over the country. Animals produced under those varying conditions will have the advantage of being acclimatized to the local conditions and thus will serve as most economical means for grading up of the indigenous cattle.

Thus it will be seen that the Goshalas and Pinjrapoles do not only possess great potentialities as means of improving the milk supply of the towns but can also serve effectively as centres for the preservation and betterment of the cattle-wealth of the country and thus supplement, to a great extent, the Government efforts in this direction.

As mentioned in the said report, Goshalas and Pinjrapoles today are caught in the meshes of a vicious circle.

Poor cattle→ Poor production→Poor returns;

Poor returns→ Poor management→ Poor cattle.

Again, the various cow-protection societies running these institutions are marked by utter lethargy and ignorance, thanks to the callousness of the members of their Governing Bodies, all pious Hindus. Many a time they act as cow-killing societies for it often brings them more money to give the cow to a butcher than to maintain it with the uncertain hope of its unknown yield.

Fodder

Fodder, green grass or vegetables, is the feed of the cow and her family. It wants only ordinary land for its growth. By lapse of time with the establishment of cities and towns even this land is being forbidden to the cow. Below are given the figures of land available for cow in different countries.

Table XXII

No.	Country	Grazing land per in acres.	Ratio of grazing land to total land.
1.	U. S. A.	12	16 %
2.	New Zealand	8	40 %
3.	Japan	7	22 %
4.	England	3·5	31 %
5.	Denmark	9	33 %
6.	India	0·9	1·182 %

It is interesting to note that this fearful shortage is also due to more and more cultivation of money crops. The process is only on the increase. The peasant gets wages so to say only for sowing and reaping, but really the profit goes to the rich trader or exporter buinessman. Yet the blame is thrown on peasant's shoulders that he has grown greedy and sows money crops at the cost of his cattle. Nay, at the cost of his children and himself for the few at the top.

In fact the quantity of fodder available for our cows is not enough to "make their both ends meet'', as the Wright Report shows in a table which is reproduced below:

Table XXIII

Total available feeding stuffs.

Fooder	Availabls quantity (1,00 tons.)	Total digestible nutrients. (1,000.)	Nutritive ratio
Dry fodders	1,11,000	36,480	1 : 36·0
Green fodders	0,00,000	11,562	1 :10·9
Concentrates	1,500	1.163	1: 1·6
Cotton Seed	2,300	1,818	1 : 5·1
Total ...	2,14,800	51,023	1 : 17·5

Thus 215 million heads of cattle of British India get only 214 million tons of feeding stuff, barely one ton per cattle per annum, about 3 seers per head every day. This means that the dry fodder would hardly come to about 2 seers a day whereas the normal requirement is 10 seers.

Again, Dr. Kehar of Imperial Veterinary Research Institute, has investigated fodder

insufficiency. His observations are summed up in the following table:

Table XXIV

Foodstuffs available per head of cattle

	Available in India in tons.	Available per animal per day for 214 million head of cattle.	Normal requirements for an animal, 500 lb. body weight.	Percentage available.
Total Digestible nutrients.	5,10,13,000	1·456 lb.	3·9 lb.	36 %
Total Digestible crude protein.	27,63,000	0·079 lb.	0·3 lb.	25 %
Dry Matter :				
Dry fooder	11,10,00,000	3·17 } 3·83 lb.	10·11 lb.	38%
Green	10,00,00,000	0·55		
Concentrates	38,00,000	0·11		

Surely under such conditions we should not be astonished at the poor output of our cow. The wonder is that it yields even as much. We may now sum up our conclusions as regards fodder supply:

More money crops → Less grazing land & poor fodder → Poor nutrition of cow.

Poor nutrition→Poor yield from cow→ More money crops.

The British discovered this formula and in our ignorance we accepted it. Our native Government is still more furiously working it. Can there be a more merciless method of sending the cow to the slaughter house?

The Great Slaughter

Eyes close both in horror and shame as one follows the cow from the grazing land to the slaughter house. According to the Blue Book (of 1922) every minute one cow is exported out from India and every minute five cows are butchered in India. It is estimated that one crore cows (of all ages including calves and pregnant ones) are killed per annum. Like prostitute-houses butcher houses mostly flourish in cities. As Dr. Rajendra Prasad says:—

"It has been calculated that in larger cities it is more profitable to sell even a good quality cow to a butcher after she has gone dry than to maintain her till her calving and then get the milk and the calf." (Datar Singh: *Report on Pinjrapoles*)

Nothing can be said definitely about the condition in the villages, far and away from the towns. But it is enough to have a rough idea of the crime being committed day in and out.

The Unholy Trade

Whatever credit we may give to the railways of India none can deny the truth that they have been the most powerful instrument in bringing about the slaughter of cows. For this reason, if for nothing else, it can be said that more havoc and disaster have been perpetrated in India by the Railway than by any other object. Their ubiquitous net spread through-out the length and breadth of the country has brought the cow from the interior into the cities and carried tons of hides and skins and bones to the different trading centres as also to the ports for export. In 1946-1947 India exported hides and skins and leather goods of the value of Rs. 27, 35, 49. 497, next only to jute (manufactured), tea and cotton (raw and manufactured). For a major part of this business innocent animals had to be chopped alive.

That cows are killed mainly for leather purposes is substantiated by the Report of the Indian Industrial Commission (1916-18). The following evidence was given by Sri Dass of the *National Tannery*, Calcutta :-

Question : You say that you purchase skins for your use in Calcutta. Do you always do so ?

Answer : Sometimes I do go to the slaughter houses and purchase skins.

Question : Then you seem to be expert both in purchasing skin and tanning leather.

Answer : In Calcutta the skins are purchased when the animala are alive. I go to the slaughter houses where I see and select them and thereafter I make my purchases. Surely it is difficult to select the skin of dead animals.

Here I would like to add that for fine quality leather called *chrome* we require very good skins which are mostly obtained from slaughter houses. If regular arrangements could be made for a supply of skin to soe chrome-makers of Bengal they would be saved from a lot of trouble. The modern tanneries of Calcutta, in general, make use of raw skin freshly obtained.

Question : In which kind of skins you deal with, fresh or old ?

Answer : We deal in only fresh ones.

This is the crux of the situation. The educated people of India want chrome and

superior leather shoes. The manufacturing firms require the skin of freshly-butchered animals for the same. Thus if our ignorant peasant is guilty of selling the cattle to the butcher for money, the learned and 'civilized' Indian is guilty of using a superior leather shoe. This is how the British made educational and economic systems, going deep down into the flesh and bone of India, have bled the country white.

No account of this trade can be complete without making a mention of "*Gosalla*"—the name given to the skin of a calf obtained before birth from a pregnant cow. There is a great demand for it outside the country. A contributor writes the following in this connection in the *Kalyan*, '*Go-Ank*'.

"Some 800 gosallas meant for export were seen in the godown of a dealer at Delhi. This was regarded as an ordinary feature. The dealer did not say anything about it but one butcher, well-versed in this trade, revealed the fact that it was more paying even to kill a very high quality pregnant cow and sell it a Gosalla, skin and meat etc. The figures are as follows :

A cow which on calving shall yield 8 seers of milk a day can be purchased for Rs. 50/- before calving. On being killed the out-turn amounts to :

No.	Article	Value Rs.	as.	p.
1.	Meat	25	0	0
2.	Other parts	2	8	0
3.	Intestines	0	8	0
4.	Horns and bones	7	0	0
5.	Hide	8	0	0
6.	Skin	8	0	0
7.	Gosalla	10	0	0
	Total ...	55	0	0

These are the pre-war figures which must have uniformly increased by now."

Doubtless there must be several such dealers in Gosalla at Delhi and so also throughout the country. It is now clear that every portion of cow's body is a marketable commodity fetching good price both in India and abroad. How heavily our cattle wealth is being drained is too obvious to need any further comment.

Summing up,

Cow's fresh skin→fine leather→manufactured here or abroad on export

→fine shoes (home made or imported)→ fine education.

And finer the education, the greater the slaughter. The process thus goes on unabated.

CHAPTER XI

The Present Situation (ii)

"We have to realize that we have not so much to save the cow from the butcher's knife as from our own."— Gandhiji.

So far we have dealth with those aspects of the present situation in which, comparatively, an individual has a little say and the Government must be held responsible for them to a large extent. In this chapter we shall examine the individual's daily contribution in deteriorating the situation.

It is a curious fact that more non-violent are we in our habits and outlook, the more cruel is our treatment of the animals and especially of the cow. One is constrained to remark that a butcher is, on contrast, a greater saviour of the cow than the so-called cow-protector. The latter almost relishes, consciously or otherwise, in indulging in inflicting more and more severe pain to the cow, while the former brings all her agony to a close, though premature and tragic.

The scene met with in the lanes of our cities and towns easily amplifies the

above statement. One of the most beastly customs is *phooka* or blowing the cow near the sex organ for milch purposes. When Gandhiji first saw it in Calcutta he was struck aghast and then and there took a vow never to take cow's milk which he fulfilled until the end. Simply for the sake of more milk we submit the cow to this brutality even when with tears in her eyes she implores us to behave humanly. Man's greed and unmanliness cannot go farther.

Another horrible sight is that of a dead calf, being carried on the shoulders of a milkman who commands a battalion of, say, half a dozen cows or so. The dead calf is packed with cotton or some such stuff. Its mouth is placed near the cow's udders to make the cow feel that her calf wants milk! Lo and behold, the innocent creature begins its supply for the occasion. The same dead calf is made to beguile (or exploit? at least half a dozen cows and for days and days together. The milk thus mercilessly released goes to the house of the learned and civilized.

So cruel about milking we are no less cruel about feeding the cow. None is so

poor as to offer Go-Mata a real reverence. Tied by rope it would be left over for the whole day and given but a few scraps of food left after their meals by the members of the Cow-protecting family. Seldom is some green fodder given to it. Gradually the yield decreases. And one fine morning it is rejected as non-paying and sold to a butcher.

One is thus forced to come to the conclusion that cows should not generally be kept in cities. Adequate arrangements should, on the hand, be made for the supply of milk to the town dwellers. Not only adequate, but also careful arrangements must needs be made, so that the villagers and their children may not suffer, neithert he off-spring of the cow. As an humble example may be cited the model of the *Go Ras Bhandar* of Wardha.

Our cruelty is by no means confined to the cow. The bullock—our source of power —is no less victimized. In a way its fate is worse than that of the cow. Though better fed than the cow it is more heavily made to work. And surely the nourishment granted is much less than actually required for

those labours. Consequently it gets weaker day by day. It is really a problem to get a nice sturdy bullock these days. If available, the price is much too forbidding. It has culminated in a continuous deterioration of our bullock-wealth. Again, the more we neglect the cow, the poorer its issues. In brief:

Poor cow→poor bullock {poor food / heavy work} →poor return;

Poor returns→poor attention→poor cow.

One can for a while understand a bullock being fed poorly and worked heavily Even it may be worked to the point of killing it, but what is entirely beyond comprehension is the bad name given to it by the owner. The bullock is an exclusive recepient of all sorts of bad names especially in Northern India when used in transport or in fields. We have, as it were, made it a rule to satisfy our meat-lust by giving it venomous abuses and rebukes which, if recorded, will go to make a thick volume. The bullock-cart driver has a whip or stick in his hand to treat his animal with, sometimes a pointed one to goad it from the delicate part behind,

and the bigger stick on his tongue which knows no law or code or sense.

To the physical inconveniences and discomforts of the poor creature we are as much oblivious. Serious wounds are allowed to grow more serious still by flies and mosquitoes, even the birds come at times to have their share ! And we remain silent spectators of the scene, caring not the least for removing away the flies or scaring away the birds and crows Nay, we go on employing the poor creature as if nothing material has happened. It is only when we get absolutely convinced that until the poor fellow can no more possibly work that we begin to bestow some care upon it. But before it is healed up its services are recalled.

Death natural or otherwise, can be the only outcome of such treatment. But so unique cow-worshippers are we that our chase continues even after the poor creature is no more. We do not allow its skin, bones, intestines etc. to be removed methodically. And the treatment meted to the man who does this thankless job is sheerly astounding. He is regarded as an 'untouchable' element

not worthy of entry in society ! This scourge stalks every bit of our land. From generations past, for several centuries the craftsman who performs these functions or tans the skins into leather is banned in the society of man and is refused admission into the temple of God—of course, in the man-made temple. At times even his sight 'impurifies' a religious soul ! He was not even authorised to move on certain roads and by-ways.

Thanks to Gandhiji, the closed doors and roads have now been opened, But the craft has yet to receive the right regard which is its due.

There is no use dilating further upon the present situation. Everybody knows that it is as it ought not to be on any account. We shall close as we began with a quotation from Gandhiji :—

"The cow must die at the hands of the butcher unless we learn the art of increasing her capacity of milk-giving, unless we improve her stock and make her male progeny more useful for the field and carrying burdens, unless we make scientific use of all her excreta as manure and unless, when she and hers die, we are prepared to make the wisest use of her hide, bone, flesh. entrails, etc."

CHAPTER XII

Conclusion

In the foregoing pages we have briefly seen the position the cow holds in our country's economy as also the condition to which we have reduced it. Undoubtedly unless both the Government and the public muster together in the task of restoring to the cow its due place the state of affairs cannot improve to any appreciable extent. But controlled economy and its still more hopeless application by our Government have made the task of the people mu h too baffling. The ordinary townsman has to depend for almost every necessity upon the Government while the villager's lot fluctuates with the buffets of the fortunes of the Government-controlled price-markets. With the best of intentions it is almost impossible for one to support a cow adequately and maintain oneself on its products. The trend of events is to degrade the cow still further and render it as one of no count. But the Government is suffering from a very serious

illusion if it thinks that Western scientific resources can help it solve the food problem for good irrespective of the cow.

As shown earlier a drift towards heavy oil-driven machinery is to throw our lot at the mercy of the oil holding power. Nor the electric one can be of any avail to the villager unless he has free and full control over its supply which is well nigh impossible in the foreseeable future. The most effective motor available in our country is man, with his time-old experience and common sense, who can move even mountains by his mental, physical and moral strength. Therefore, the less we resort to outside tools and implements the better for all concerned. In other words, the Government must cease to import foreign machinery, foreign experts and foreign money etc. and bid a hearty good-bye to those already in. Believing in the maxim that God helps those who help themselves and Uncle Sam (or any outsider, for that matter) helps those who enslave themselves, the Government must take immediate and effective steps to establish a decentralised economy in which every village stands on its own feet, and meets its basic

necessities of food, clothing, housing, etc, by the dint of its own effeort, no special aid being imported even from another district, save in exceptional cases where climatic conditions are not conducive to self-sufficiency Then we would get the atmosphere enabling our villagers to live a life of their own undisturbed by the madding crowd's ignoble strife. It is under those conditions alone that cow can prosper and help others prosper. Our masses would then be released from chains gripping them still. As Gandhiji says in his '*Hind Swraj*', 'the Italy of Mazzini continues to be in a state of slavery', so also the India of Gandhiji still remains in a state of slavery. Presently it is held in bondage by the triple chains of centralisation, capitalism and military, under the advice of foreign experts and under the warmth of foreign money. Frankly, the recent Indo-American agreement is a "noose", as Dr. J. C. Kumarappa calls it, with which America has tried to seize India by the neck. Nay, it is slavery bond signed on behalf of the machine-crazy India, pitting our markets and hearths and homes against the wanton will of the foreign exploiter.

One may question the connection of cow-welfare to the Indo-American Aid or Bond. Verily, poor cow is a challenge to the economic and political and social system sought to be set up by the Aid or Bond. The two cannot thrive together. The Alwaye Rare Earths,the Sindri Fertilizers, the Chittaranjan Locomotives, the Parnera Dye-Pharmaceuticals, and the eleven and odd laboratories scattered all over the country are really convenient tools in the hands of a few businessmen and officers and experts to kill the cow and destroy the cow-keeper. If cow is to live they would have to go or at least undergo a thorough transformation. If foreign Aid or Bond is to live they would have to 'develop' more and more in order that they may prove better killers and destroyers. In fact, the *Cow* and the Aid or Bond stand for two different ways of life, for two different orders of society. We must be clear about it. The Government must make its choice between the two. So also the people.

And the mute cow seems to say: 'Please come to your decisions before it is too late!'

APPENDIX

(By Radhakrishna Bajaj, Secretary, Go-Seva Sangh, Wardha)

What was distinctive in Gandhiji's contribution to the resurgence of India was his almost instinctive perception of the basic needs of his country and of the ways in which those needs could be met by appealing to what was permanent and noble in the nation's heritage. He came not to destroy, but to fulfil. He wanted to retain and develop all that was sound and good in the nation's tradition. This is nowhere seen better than in his devotion to the Cow and his efforts to revive the cow and bullock-centred economy of village India. With his unerring insight into the needs of the people and the practical ways of meeting those needs, he made cow-protection one of the main planks in his Constructive Programme. Quoting the ancient Rishis, he said, "Save the cow and everyone will be saved." "They have given us", he said, "this key to knowledge. We have to extend and not destroy it."

The Go-Seva Sangh is one of the key organizations in the national reconstruction planned by Gandhiji. It was formally organized by him at Nalwadi, Wardha, on 30th September, 1941. An earlier organisation, started at Belgaum in 1924 and functioning at Sabarmati, was merged with this. Its object is to bring about an all-round wealth of cows and bullocks in India. It aims at making the present Indian society realise the necessity of scientific and extensive cow-keeping in India, at disabusing their minds of unscientific notions and broadcasting knowledge of animal husbandry with a view to improving the breed of the cow. But the whole aim of the Go Seva Sangh can be found in the word 'Seva'. Go-palan from the point of view of 'Seva', and Go-palan from the economic point of view alone are not the same. The cow is part of the basis of a non-violent society. The cow should be treated as a member of the family and as we make the fullest use of every member of the family for the sake of the whole family, the cow also should be used to the fullest advantage for the country.

The Go Seva Sangh has aimed at improving the conditions of agriculture through attention to the cow. It has sought to improve such breeds as the farmers in various parts of the country possess already, instead of importing new breeds from long distances. The Sangh has conducted several experiments in this connection during the last several years at the Gopuri Goshala near Wardha. It is a matter for satisfaction that the Government and the people alike have begun to take a keen interest in the work of the Go Seva Sangh. The idea has now *gained* ground that agriculture and *Go-palan* should be organised everywhere hand in hand. There are several schemes already promoted by the Government and people's organisations with this end in view.

From April 1951, the Go Seva Sangh has become the Krishi and Go Seva Vibhag of the Sarv Seva Sangh which is the overall body co-ordinating the various organisations of constructive work in India. It is not without significance that agriculture is also now entrusted to and coupled with the work of what was previously the Go Seva Sangh. Experiments and training of workers in

agriculture and Go-palan are now going on simultaneously under the Krishi and Go Seva Vibhag.

Work under the direcion, and on the lines, of the Go Seva Sangh is carried on in several of the States in India. Workers trained at Gopuri, near Wardha are mostly in charge of the work in the various States and experiments are being carried on at several centres to improve local breeds of cows. The most noteworthy effort in this line is the experiment carried on at Gopuri to improve the *Gaolao* breed. The average daily milk-yield per cow has steadily increased during the last four years. The main Goshala of the Sangh is at *Pipri*, about three miles from Wardha, on the Arvi Road. This centre came under the Sangh in 1947. The *Pipri* Goshala keeps many heads of cattle, cows, stud-bulls, heifers and bull-calves. The Goshala sells these to the farmers and to other Goshalas. Training of workers in Go-palan has gone on steadily at Gopuri during the last few years. More than 400 workers were trained between 1947 and 1951. The Government of Madhya Pradesh deputed students for training who later

joined the Veterinary Department and took charge of animal husbandry in the villages. The training centre was shifted from Gopuri to Pipri in July 1951.

The Sangh runs a model milk supply centre for Wardha and this is called the *Go-Ras Bhandar.* Three big Goshalas and many village milk-men are working in collabration with this Bhandar. Village milk-men are given small loans to purchase cows and are provided with feeds at cost price.

The movement is yet only in its infancy. It is however daily gathering momentum. It is such work that neither the people nor the Government can ignore. Re-construction of villages is impossible without improving the cow in India. In fact Indian village economy is largely cow and bullock-centred. The Go Seva Movement has, therefore, made all village re-construction work more real. Its significance is far-reaching.

As usual in all such movements in India, Gandhiji took the lead in bringing home to the minds the people the urgent need for the work of Go-Seva. First in the pages of '*Young India*' and then in those of the

Harijan he wrote again and again revealing the tragic situation in the country in regard to cows. He published facts and figures and formulated the principles upon which the movement of Go Seva should be based. He went further and formulated practical plans and schemes. He created a great mental stir in the country for the new programme and he drew into work men of importance and influence. The late Shri Jamnalal Bajaj became the President of the first Managing Board of the Go Seva Sangh and it contained such veterans as Shri Narhari Bhai Parikh, Swami Anand Acharya Vinoba, Shri Santikumar Morarji and others. The Go Seva Shangh which is now the Krishi and Go Seva Vibhag of the Sarve Seva Sangh, has thus inherited one of the biggest items in the Gandhian Constructive Programme. The scope of its work is as vast as the country itself. Luckily there are yet to be found sound and good traditions of cow-keeping in India. Occasionally some of these traditions have been completely corrupted by the present day greed for quick profits. But the Indian villager can easily understand and appre-

ciate the ideals and programmes of the Go Seva Sangh, because the cow and the bullock mean so much to him. The good old traditions have to be strengthened and expanded and, wherever necessary and proper, modern scientific methods have to be applied. It is in this great task that the Sangh is now engaged.

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GO-SEVA

ITS ECONOMICS AND RELIGION

In no other country in the world save India are cattle a burden on the land or its people. One may say that in such countries there is no such thing as superfluous cattle......

* * *

Cattle at the present moment go to the slaughter houses because of our criminal negligence and want of proper knowledge. The saving of an enormous number of cattle is more a problem of economics than religion; and there is no conflict between them. A religion which is in conflict with fundamental economics is bad, and in the reverse way economics that are in conflict with fundamental religion are also equally bad.

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